Observations of December 2006 events

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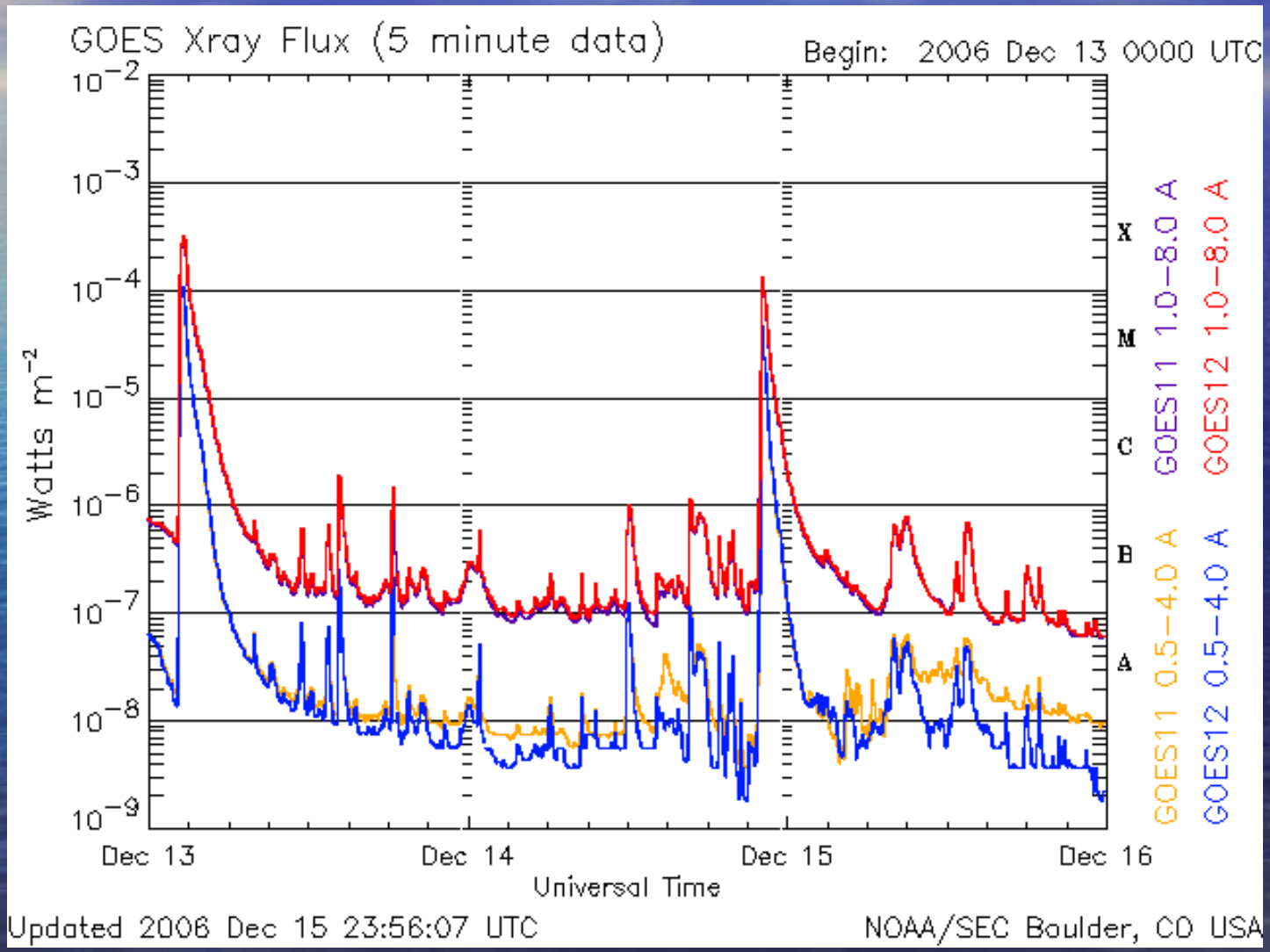
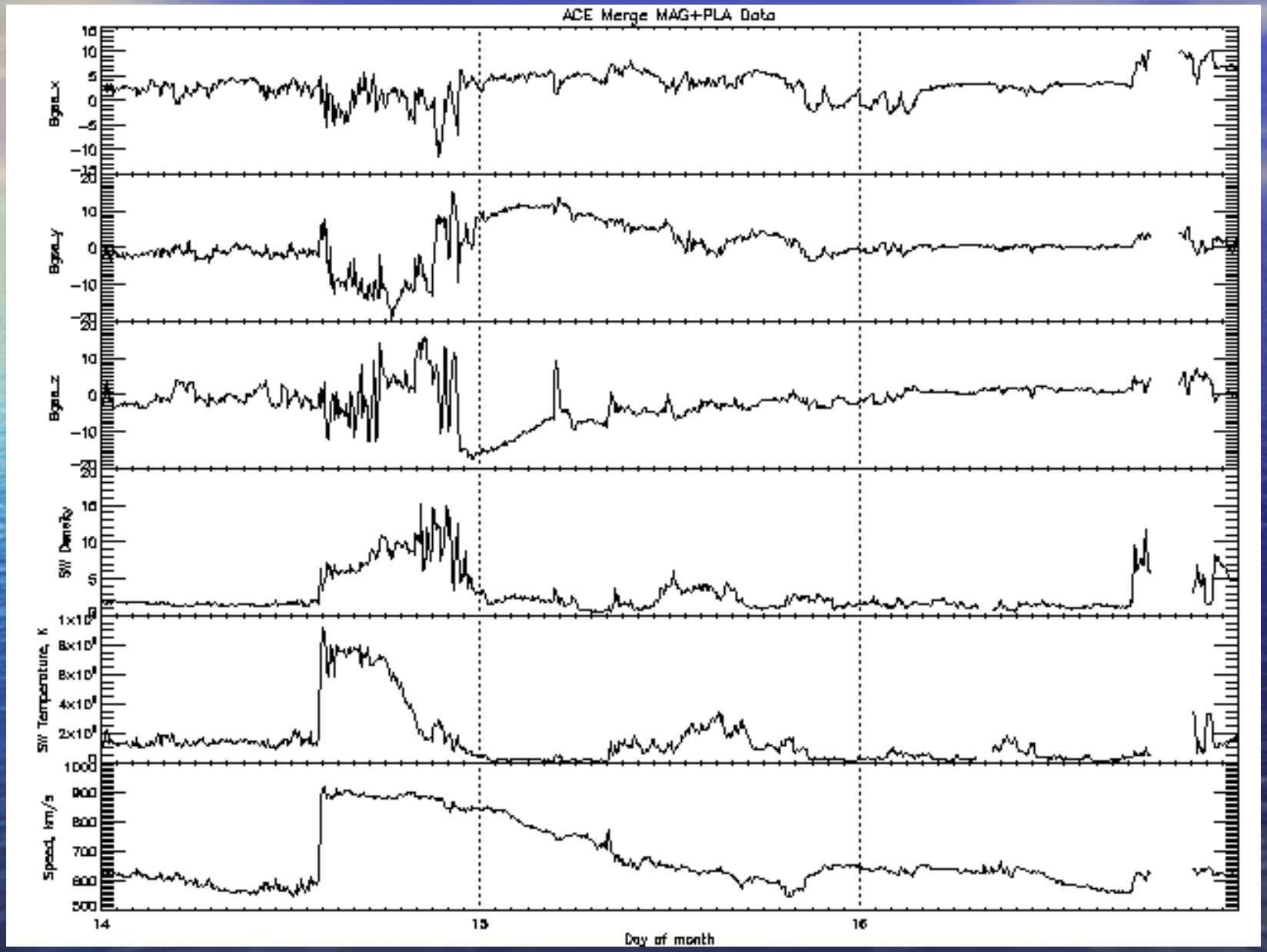
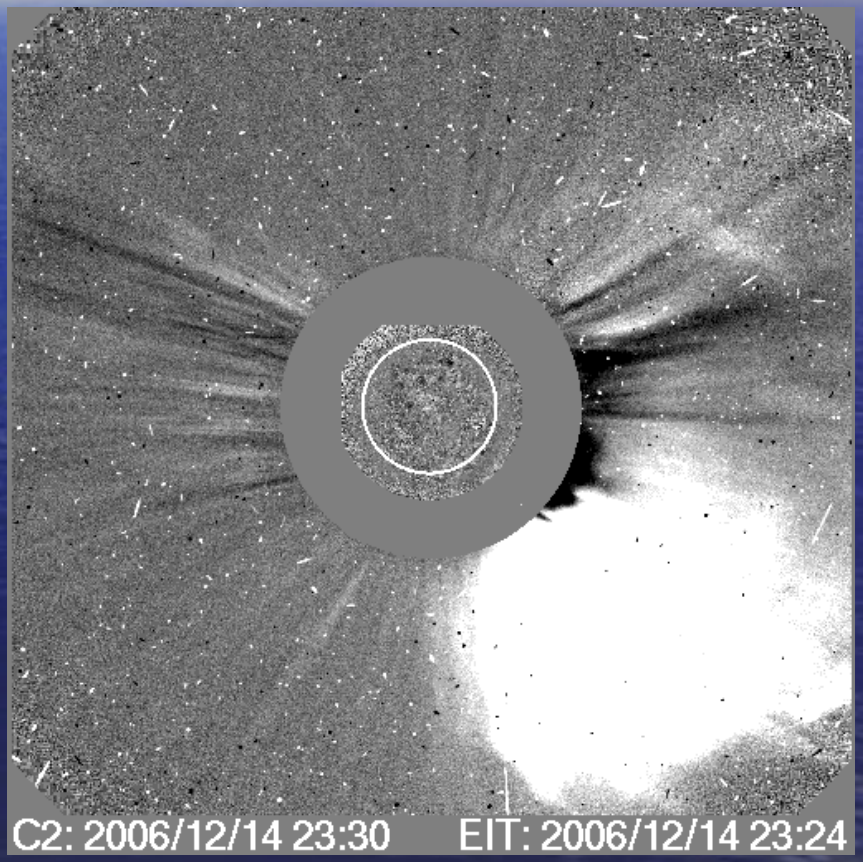
From GOES


GOES Xray Flux (5 minute data)
Begin: 2006 Dec 13 0000 UTC
Watts m-2
10-2
10-3
10-4
10-5
10-6
10-7
10-8
10-9
X
M
C
B
A
GOES11 1.0-8.0 A
GOES12 1.0-8.0 A
GOES11 0.5-4.0 A
GOES12 0.5-4.0 A
Dec 13
Dec 14
Dec 15
Dec 16
Universal Time
Updated 2006 Dec 15 23:56:07 UTC
NOAA/SEC Boulder, CO USA

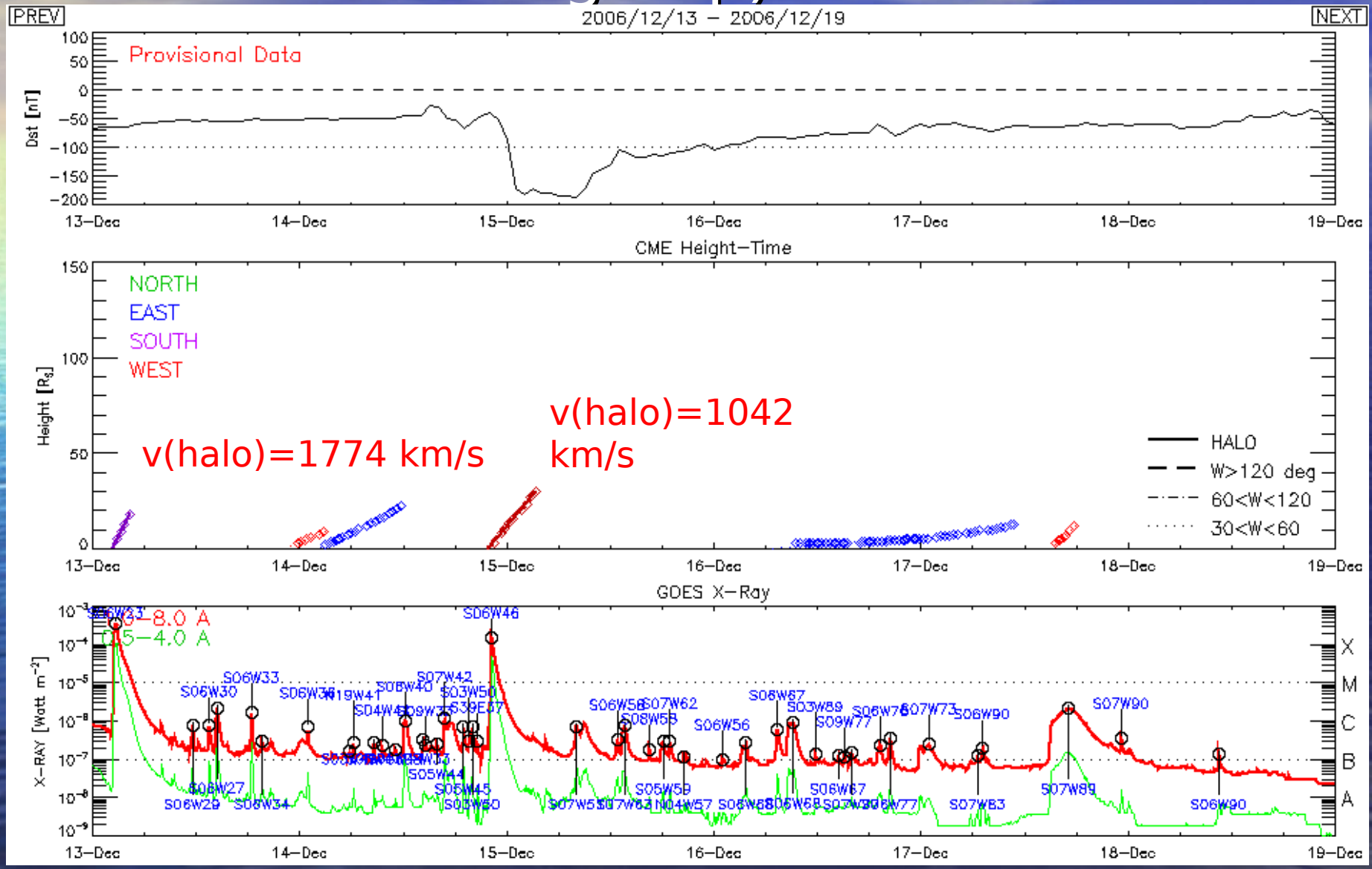
Observation from ACE



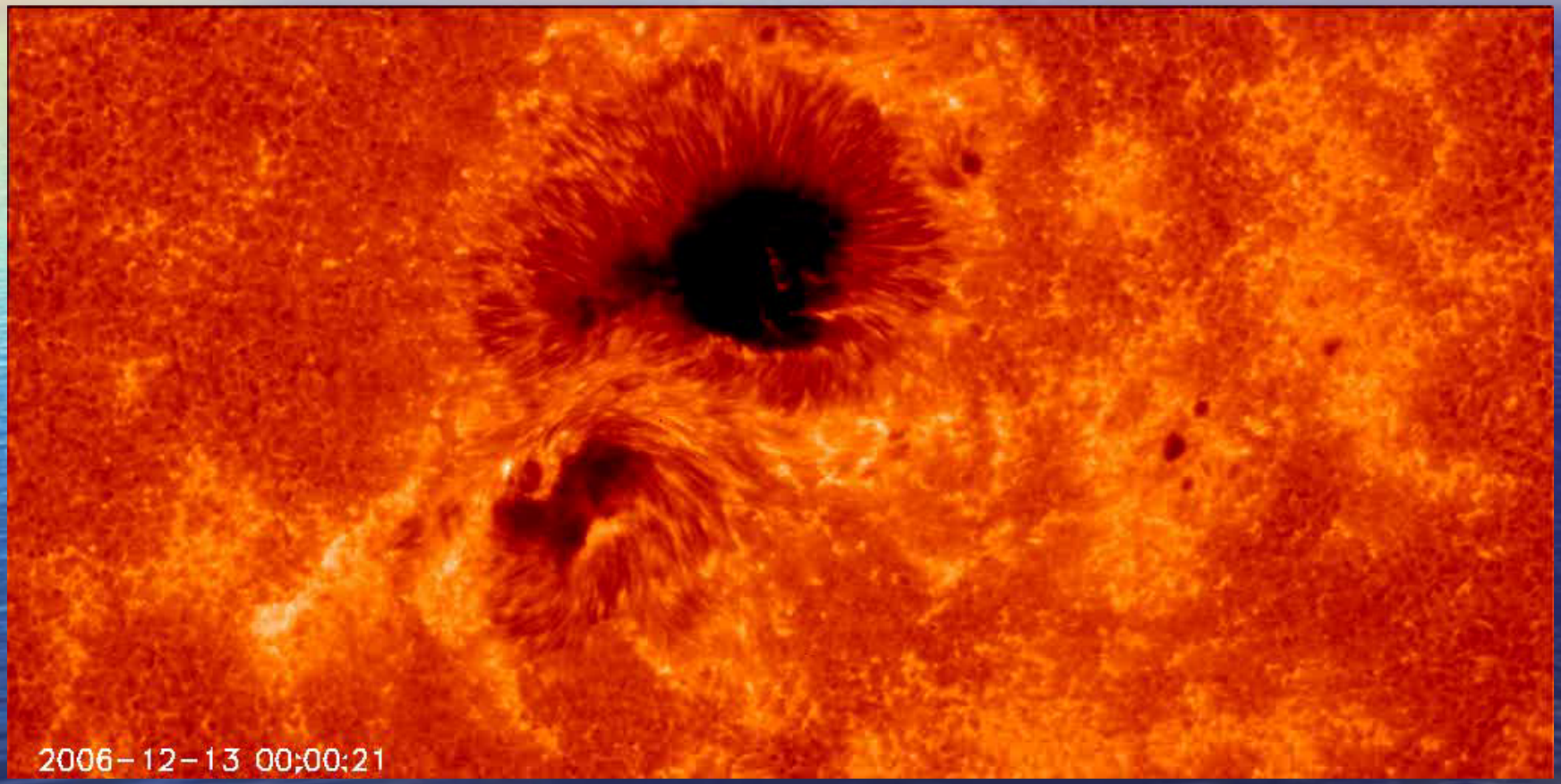
LASCO observation



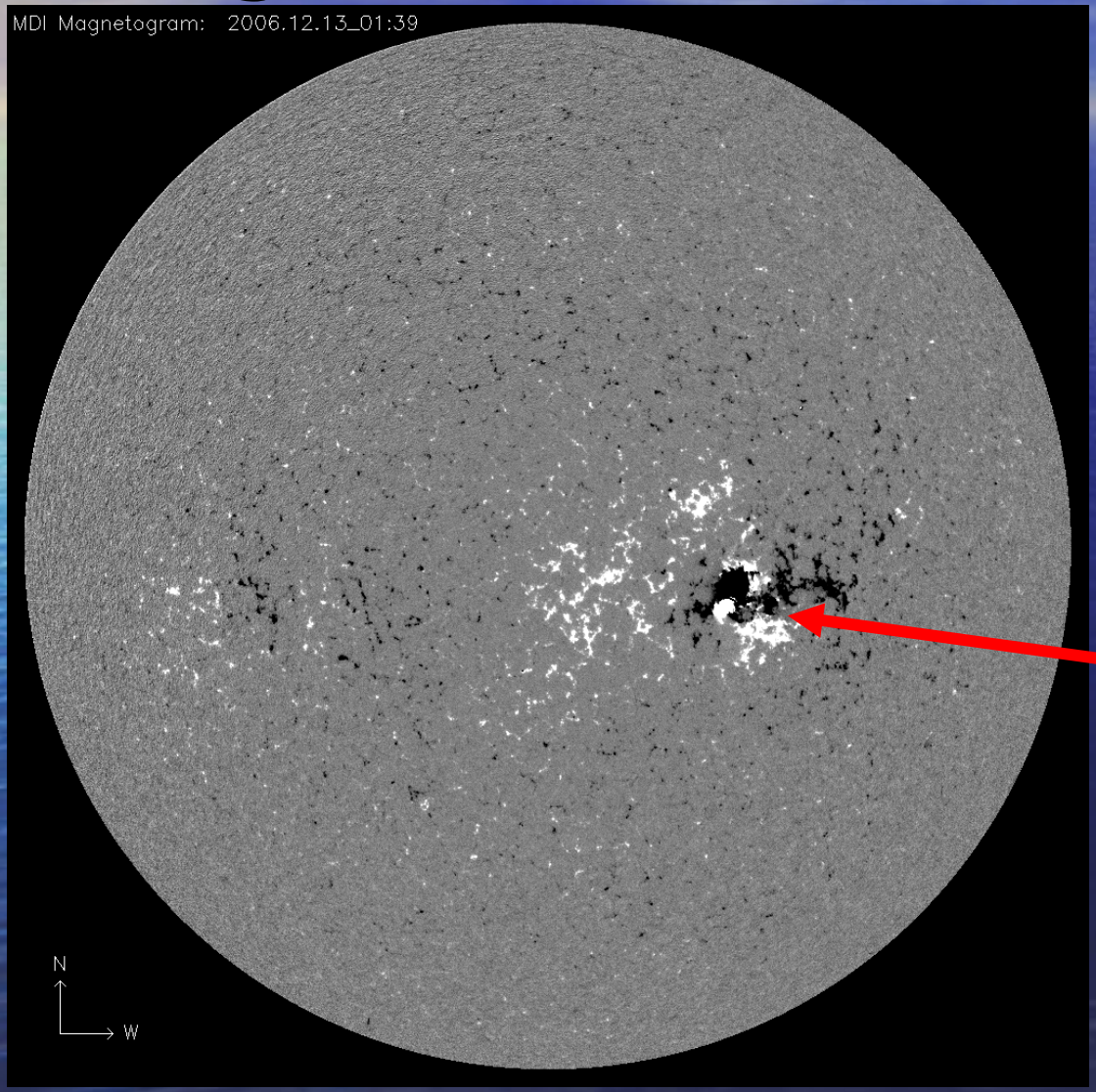
CMEs and Dst (from Gopalswamy's group)



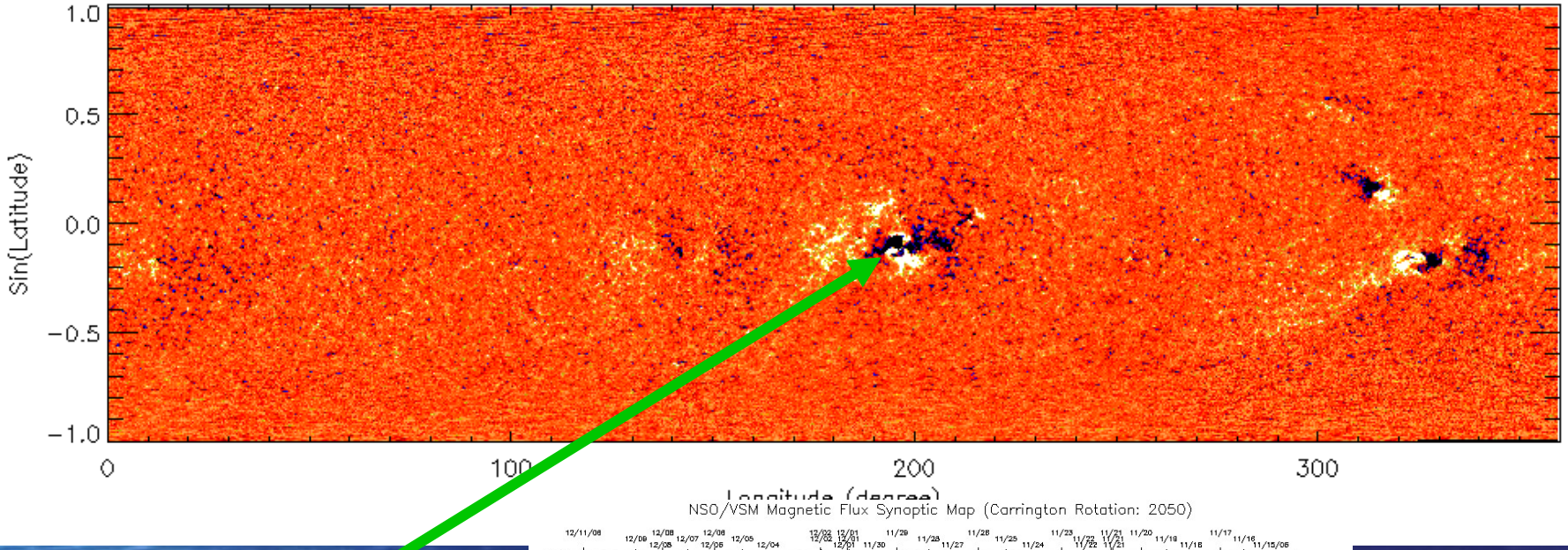
December 13 2006 flare



Magnetic field on the Sun



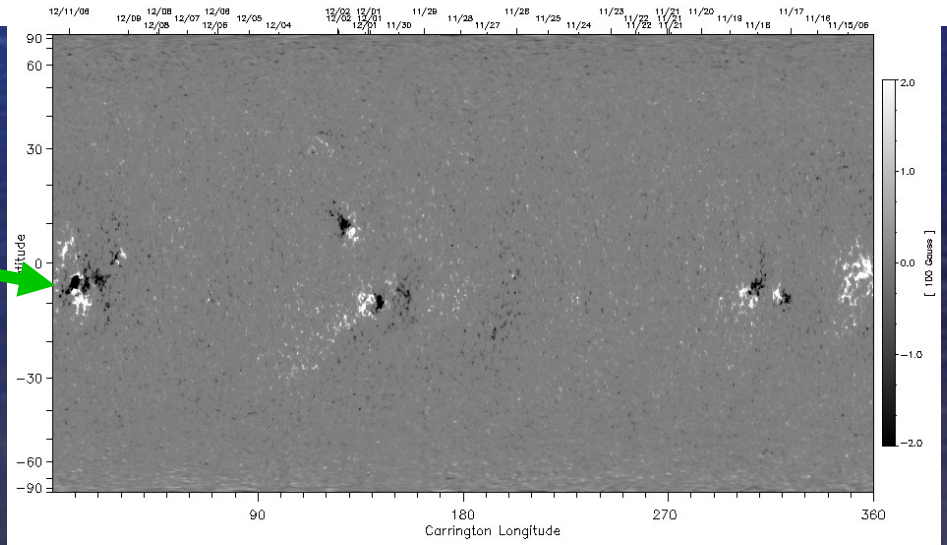
Magnetic distribution over the Sun's surface

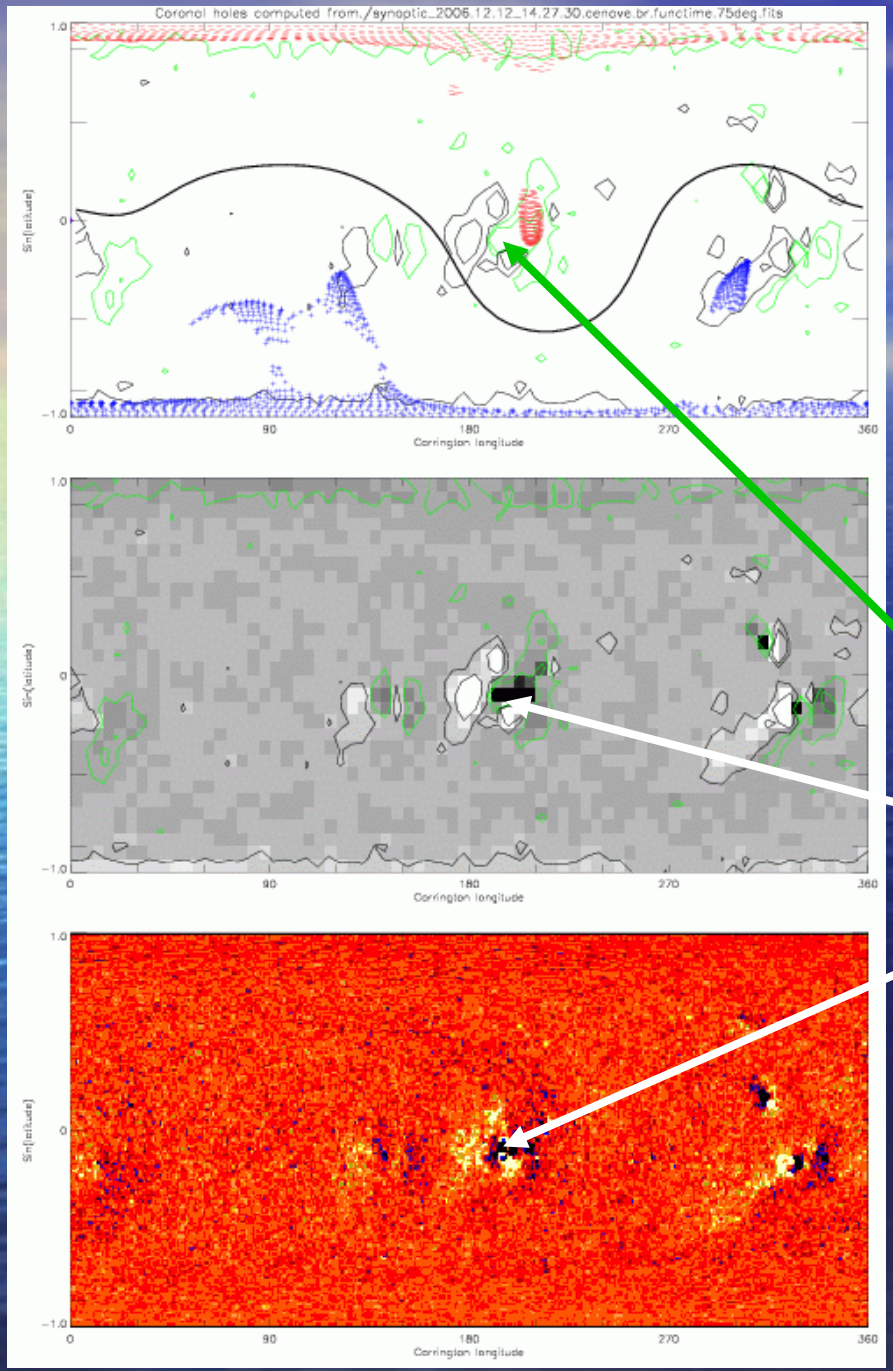


MDI

AR10930

SOLIS

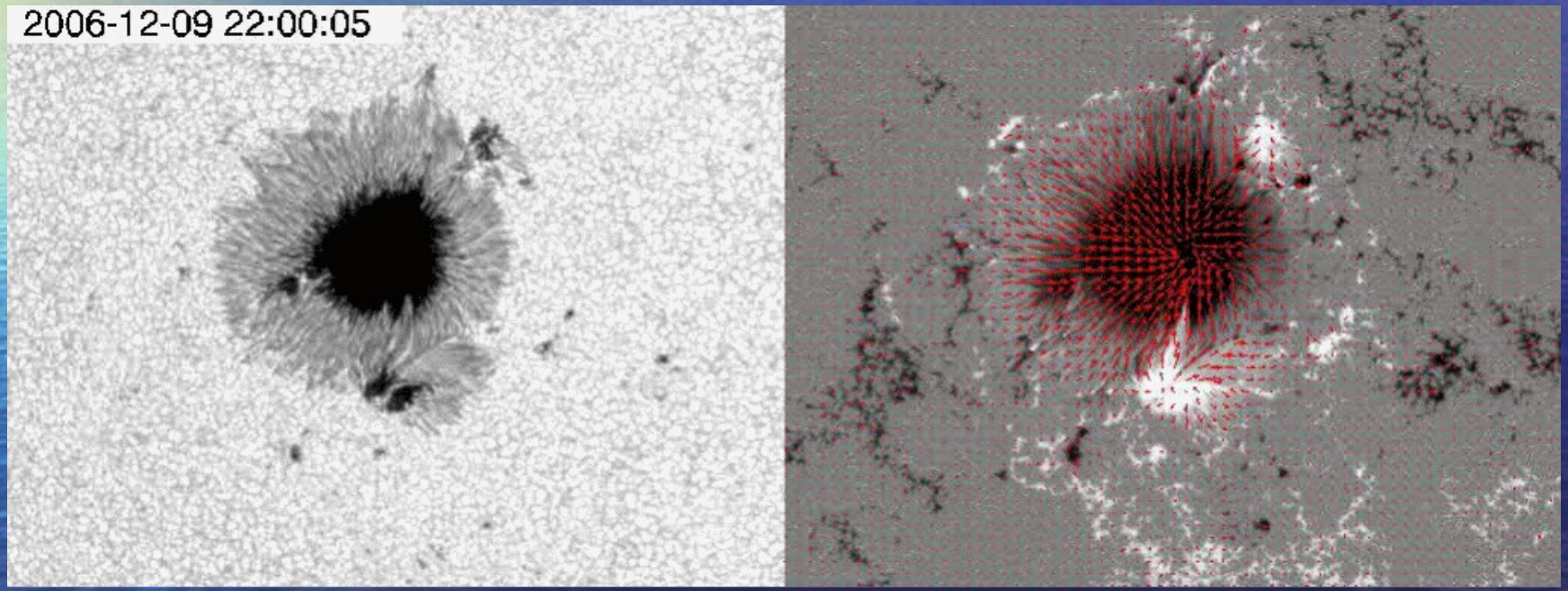




AR10930 and large-scale magnetic field.

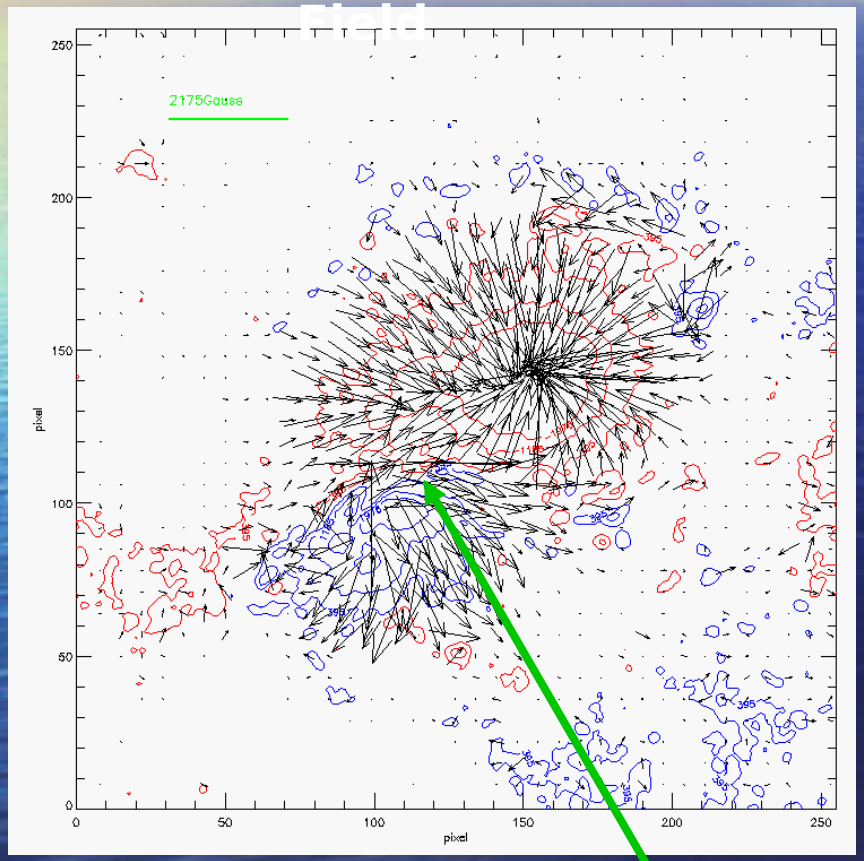
AR10930

Evolution of AR10930 from Hinode

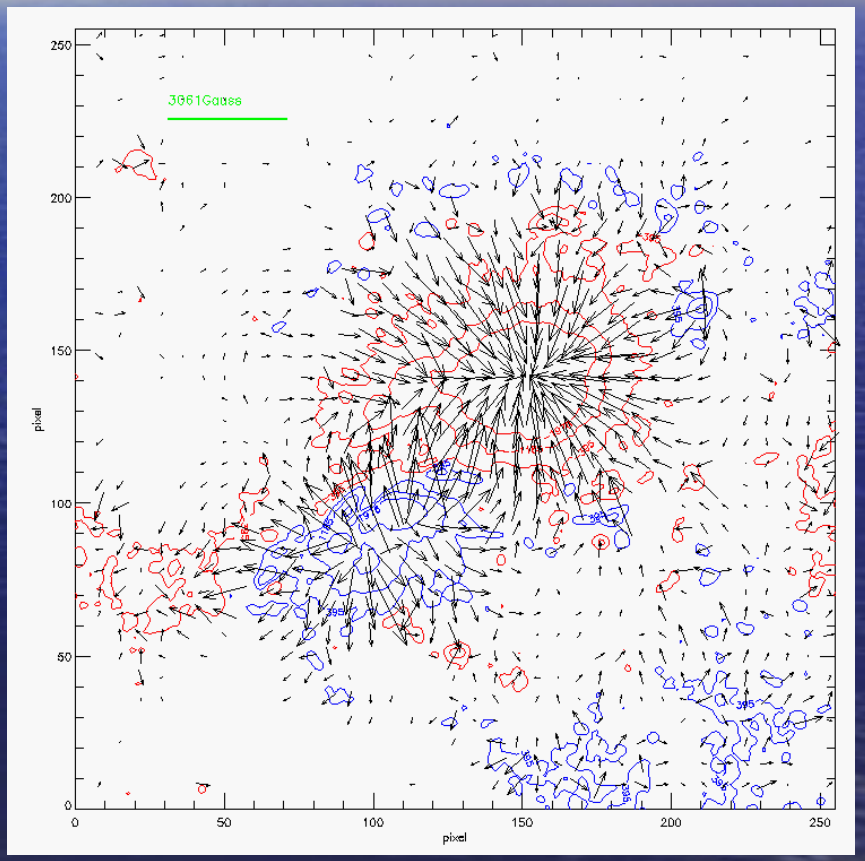


Vector field on Dec 12 (20:30UT) (from Hinode)

Observation Field

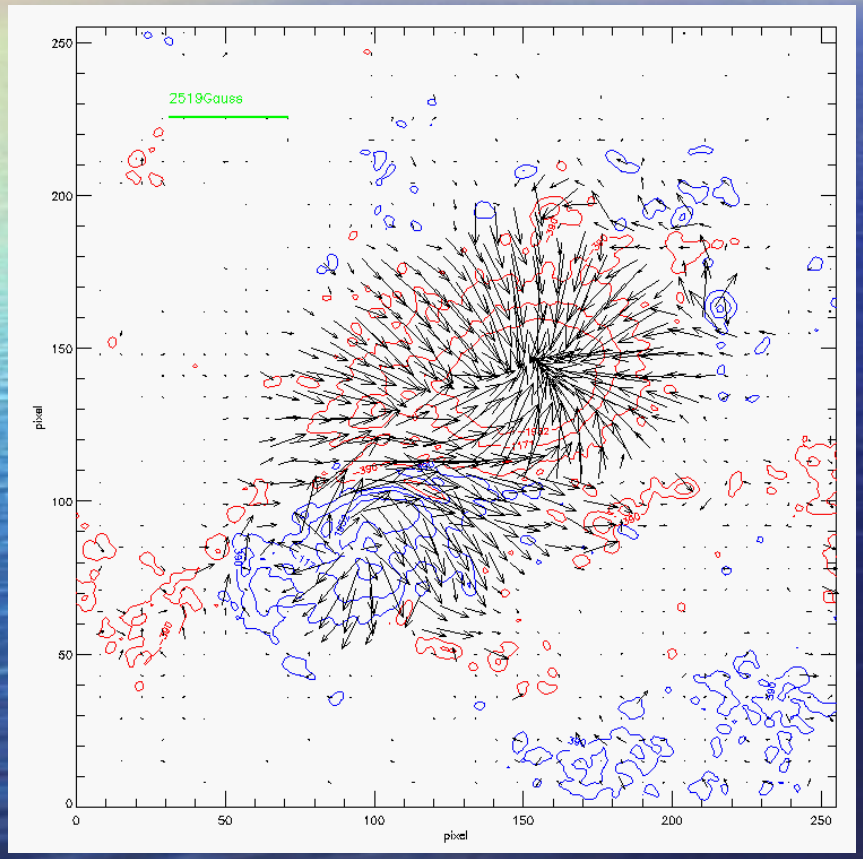


Potential

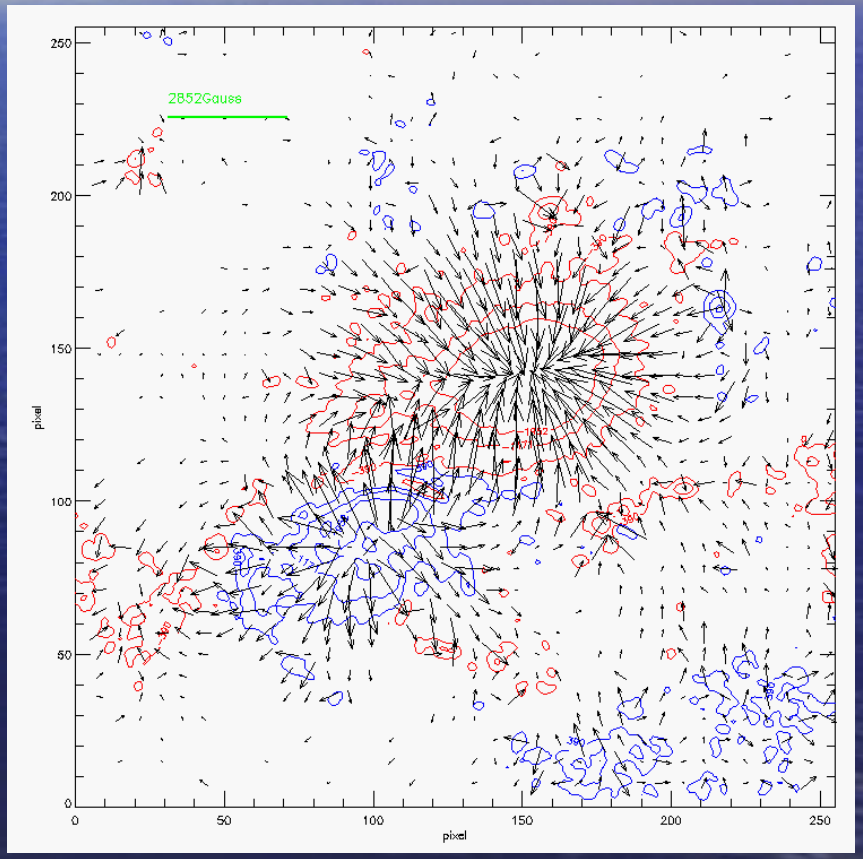


highly sheared along the neutral line.

Vector field on Dec 13 (04:30UT) (from Hinode)

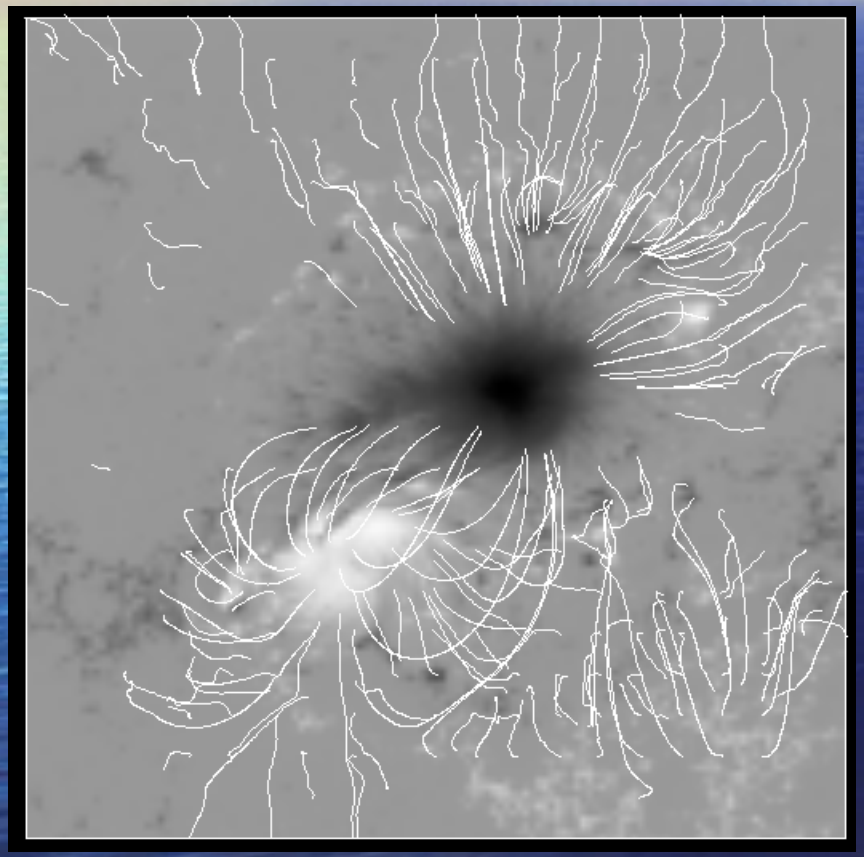


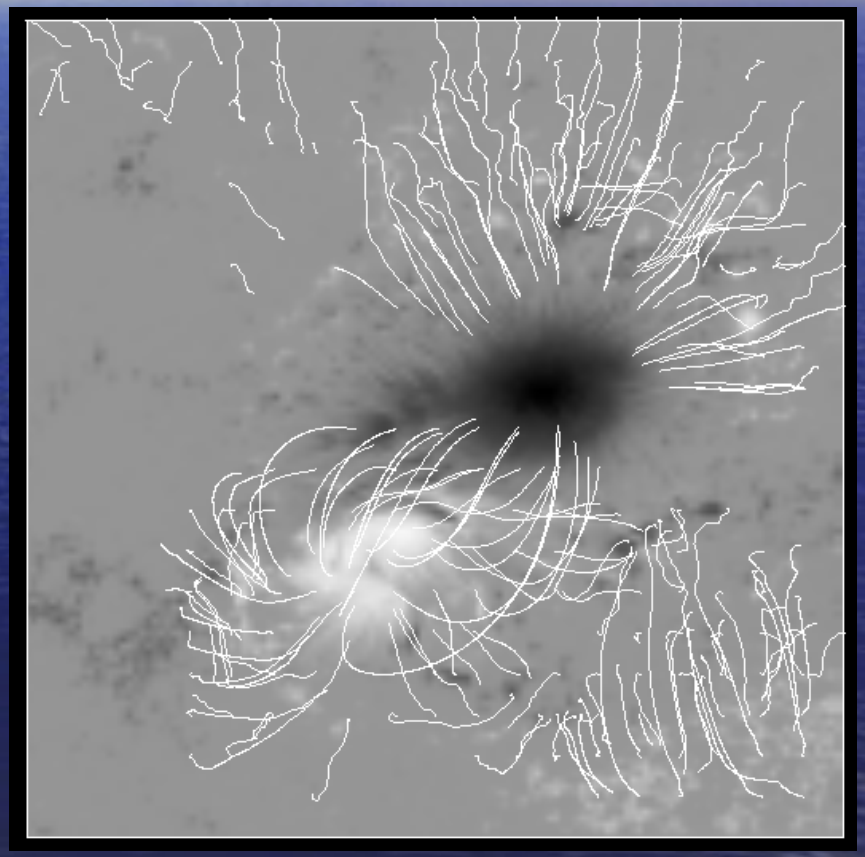
Observation Field



Potential

NLFFF (only closed field lines plotted) (from McTiernan's code available in SSW)

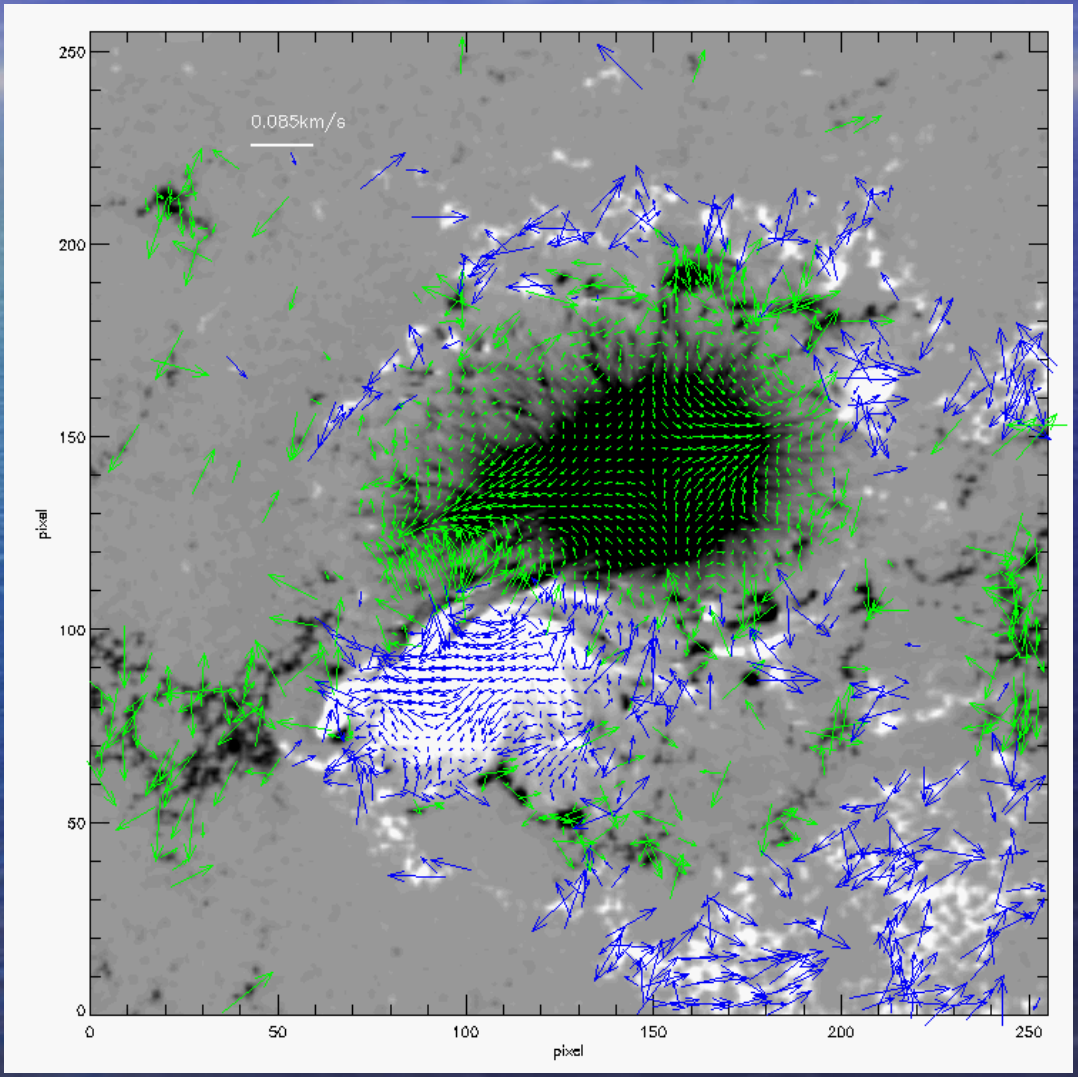




Dec 12 20:30 UT

Dec 13 04:30 UT

Surface flow map derived from Longcope's MEF code

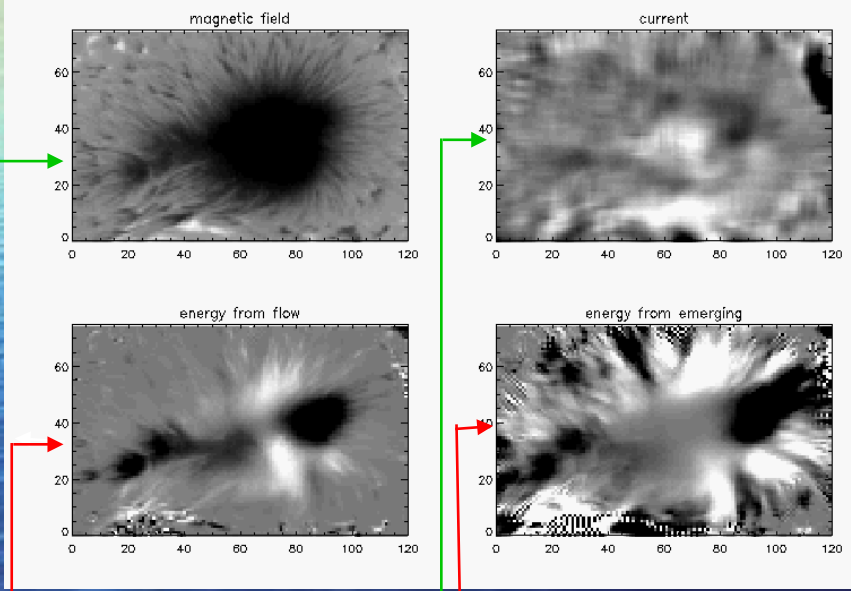


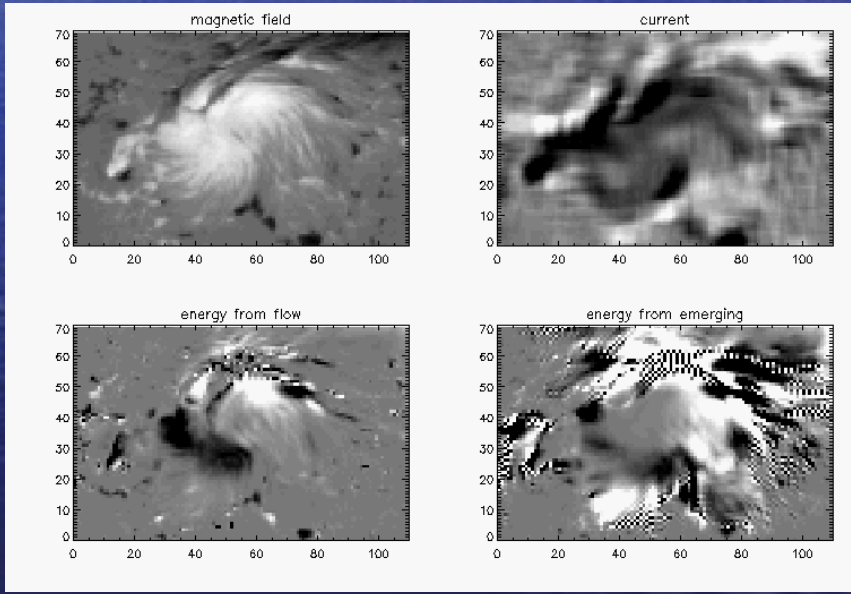
Energy of AR10930

main spot

spot

fast-spin





Magnetic field

Vertical electric current

Poynting from emerging flux

Poynting from surface flow